

Please type a plus sign (+) inside this box ---> ☐

Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Complete if Known		
			Application Number	09/882,101	
			Filing Date	06/15/2001	
			First Named Inventor	ANDREACO, et al.	
			Group Art Unit	2878	
			Examiner Name		
Sheet	1	of	6	Attorney Docket Number	24017.02

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
OG	AA	2,910,592		Armistead	10-27-1959	
OG	AB	3,432,660		Anger	03-11-1969	
OG	AC	3,851,177		Van Dijk, et al.	11-26-1974	
OG	AD	3,899,675		Floyd	08-12-1975	
OG	AE	3,919,556		Berninger	11-11-1975	
OG	AF	3,955,088		Muehllehner, et al.	05-04-1976	
OG	AG	4,037,105		Laurer	07-19-1977	
OG	AH	4,075,483		Tancrell, et al.	02-21-1978	
OG	AI	4,095,107		Genna, et al.	06-13-1978	
OG	AJ	4,124,804		Mirell	11-07-1978	
OG	AK	4,323,778		Wykes, et al.	04-06-1982	
OG	AL	4,398,092		Carlson	08-09-1983	
OG	AM	4,531,058		Burnham, et al.	07-23-1985	
OG	AN	4,667,299		Dunn	05-19-1987	
OG	AO	4,675,526		Rogers, et al.	06-23-1987	
OG	AP	4,677,299		Wong	06-30-1987	
OG	AQ	4,687,683		Ishii, et al.	08-18-1987	
OG	AR	4,733,083		Wong	03-22-1988	
OG	AS	4,743,764		Casey, et al.	05-10-1988	
OG	AT	4,749,863		Casey, et al.	06-07-1988	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ²	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

Examiner Signature	<i>Debra Gehen</i>	Date Considered	12/19/02
-----------------------	--------------------	--------------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	09/882,101
				Filing Date	06/15/2001
				First Named Inventor	ANDREACO, et al.
				Group Art Unit	2878
				Examiner Name	
Sheet	2	of	6	Attorney Docket Number	24017.02

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
CG	AU	4,750,972		Casey, et al.	06-14-1988	
CG	AV	4,837,439		Genna, et al.	06-06-1989	
CG	AW	4,843,245		Lecomte	06-27-1989	
CG	AX	4,891,520		Ishibashi, et al.	01-02-1990	
CG	AY	5,107,121		Lim, et al.	04-21-1992	
CG	AZ	5,122,667		Thompson	06-10-1992	
CG	BA	5,144,141		Rougeot, et al.	09-01-1992	
CG	BB	5,187,369		Kingsley, et al.	02-16-1993	
CG	BC	5,210,420		Hartz, et al.	05-11-1993	
CG	BD	5,264,154		Akiyama, et al.	11-23-1993	
CG	BE	5,319,204		Wong	06-07-1994	
CG	BF	5,332,906		Lauf, et al.	07-26-1994	
CG	BG	5,338,936		Gullberg, et al.	08-16-1994	
CG	BH	5,349,191		Rogers	09-20-1994	
CG	BI	5,430,297		Hawman	07-04-1995	
CG	BJ	5,434,416		Motomura, et al.	07-18-1995	
CG	BK	5,453,623		Wong, et al.	09-26-1995	
CG	BL	5,471,061		Moyers, et al.	11-28-1995	
CG	BM	5,479,021		Morgan, et al.	12-26-1995	
CG	BN	5,521,378		Roscoe, et al.	05-28-1996	

[illegible]

Examiner Signature	<i>Abile Gabe</i>	Date Considered	12/19/02
-----------------------	-------------------	--------------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.



+

PTO/SB/08A (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Collection of information unless it contains a valid OMB control number.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	09/882,101
				Filing Date	06/15/2001
				First Named Inventor	ANDREACO, et al.
				Group Art Unit	2848
				Examiner Name	
				Attorney Docket Number	24017.02
Sheet	3	of	6		

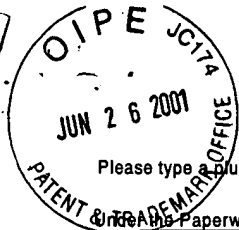
[illegible][illegible]

Examiner Signature	<i>Debra Baker</i>	Date Considered	12/19/02
-----------------------	--------------------	--------------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner, Patents, Washington, DC 20231.**



Please type a plus sign (+) inside this box ---> ☐

PTO/SB/08B (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known			
		Application Number	09/882,101		
		Filing Date	06/15/2001		
		First Named Inventor	ANDREACO, et al.		
		Group Art Unit			
		Examiner Name			
Sheet	4	of	6	Attorney Docket Number	24017.02

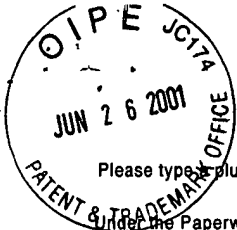
OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
OG	BV	M.E. Phelps, et al.: "Positron Emission Tomography and Autoradiography," 296-271, Raven Press, 1986	
OG	BW	R.D. Evans: "The Atomic Nucleus," Kreiger, 1955	
OG	BX	J.C. Moyers: "A High Performance Detector Electronics System for Positron Emission Tomography," Master Thesis, University of Tennessee, Knoxville, TN 1990	
OG	BY	R.A. DeKemp, et al.: "Attenuation Correction in PET Using Single Photon Transmission Measurement," Med. Phys., Vol. 21, 771-778, 1994	
OG	BZ	S.R. Cherry, et al.: "3D-PET Using a Conventional Multislice Tomograph Without Septa," J1. C.A.T., 15(4)655-668, 1991	
OG	CA	J.S. Karp, et al.: "Singles Transmission in Volume-Imaging PET With a 137 Cs Source," Phys. Med. Biol. Vol. 40, 929-944, 1995	
OG	CB	S.K. Yu, et al.: "Single-Photon Transmission Measurements in Positron Tomography Using 137 Cs," Phys. Med. Biol. Vol. 40, 1255-1266, 1995	
	CC	G.F. Knoll: "Radiation Detection and Measurement," John Wiley & Sons, Inc.	
OG	CD	S.R. Cherry, et al.: "Optical Fiber Readout of Scintillator Arrays Using a Multi-Channel PMT: A High Resolution PET Detector for Animal Imaging," IEEE Transactions on Nuclear Science, Vol. 43, No. 3, 1932-1937, 06-1996	
OG	CE	J.A. McIntyre, et al.: "Construction of a Positron Emission Tomograph with 2.4 mm Detectors", IEEE Transactions on Nuclear Science, Vol. 33, No. 1, 425-427, February 1986	
OG	CF	M. Dahlborn, et al.: "Performance of a YSO/LSO Phoswich Detector for use in a PET/SPECT System", IEEE Transactions on Nuclear Science, Vol. 44, No. 3, 1114-1119, June 1997	

Examiner Signature	<i>Oliver Goben</i>	Date Considered	12/19/02
-----------------------	---------------------	--------------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.



Please type plus sign (+) inside this box ---> ☐

PTO/SB/08B (10-96)

Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Complete if Known		
			Application Number	09/882,101	
			Filing Date	06/15/2001	
			First Named Inventor	ANDREACO, et al.	
			Group Art Unit	2878	
			Examiner Name		
Sheet	5	of	6	Attorney Docket Number	24017.02

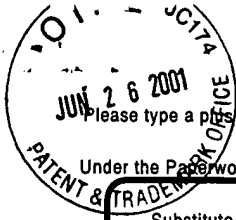
OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²	
OG	CG	G.B. Loutts, et al.: "Czochralski growth and characterization of (Lu 1-x Gd x)2 SiO 5 single crystals for scintillators", Journal of Crystal Growth 174 (1997), 331-336		
	CH	M. Schmand, et al.: "Performance results of a new DOI detector block for a High Resolution PET - LSO Research Tomograph HRRT", Source unknown		
OG	CI	A.C. Kak and M. Slaney: "Principles of Computerized Tomographic Imaging", IEEE Press, 1987		
OG	CJ	J.A. Sorenson and M.E. Phelps: "Physics in Nuclear Medicine" W.B. Saunders Company, 1987		
OG	CK	P. Tan, et al.: "A Scanning Line Source for Simultaneous Emission and Transmission Measurements in SPECT", The Journal of Nuclear Medicine, Vol. 34, No. 10, October 1993		
OG	CL	D.L. Bailey, et al.: "Improved SPECT Using Simultaneous Emission and Transmission Tomography", The Journal of Nuclear Medicine, Vol. 28, No. 5, May 1987		
OG	CM	H.M. Hudson and R.S. Larkin: "Accelerated Image Reconstruction Using Ordered Subsets of Projection Data", IEEE Transactions on Medical Imaging, Vol. 13, No. 4, December 1994		
OG	CN	L.T. Chang: "A Method for Attenuation Correction in Radionuclide Computed Tomography", IEEE Transactions on Nuclear Science, Vol. NS-25, No. 1, February 1978		
OG	CO	E.F. Hollinger, et al.: "Using Fast Sequential Asymmetric Fanbeam Transmission CT for Attenuation Correction of Cardiac SPECT Imaging", The Journal of Nuclear Medicine, Vol. 39, No. 8, August 1998		
OG	CP	K. Lange, et al.: "A Theoretical Study of Some Maximum Likelihood Algorithms for Emission and Transmission Tomography", IEEE Transactions on Medical Imaging, Vol. MI-6, No. 2, June 1987		
OG	CQ	G.T. Gullberg, et al.: "An Attenuation Projector-Backprojector for Interactive SPECT Reconstruction", Phys. Med. Biol., 1985, Vol. 30, No. 3, 799-816		

Examiner Signature	<i>Debra Gabe</i>	Date Considered	12/19/02
--------------------	-------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.



Please type a plus sign (+) inside this box --->



PTO/SB/088 (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

6

of

6

Complete if Known

Application Number	09/882,101
Filing Date	06/15/2001
First Named Inventor	ANDREACO, et al.
Group Art Unit	2873
Examiner Name	
Attorney Docket Number	24017.02

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
CG	CR	K. Lange and R. Carson, "EM Reconstruction Algorithms for Emission and Transmission Tomography", Journal of Computer Assisted Tomography 8(2): 306-313, April 1984	
	CS	C.A. Burnham, et al.: "MGH Cylindrical PET Detector Characteristics", 1644-1647	

Examiner
Signature

Oliver Goh

Date

Considered

12/19/02

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.